

APPENDIX D

Coal Screening Process

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INTRODUCTION

This report documents the results of applying the coal screening process to federal coal lands within the central and northern portions of the Powder River Basin, Wyoming. This process is directed by regulations pertaining to the Federal Coal Program as outlined in 43 CFR part 3461. The coal screen was completed for use in updating the 1985 Buffalo Resource Management Plan (RMP) and the Thunder Basin National Grassland planning documents. This report was prepared in cooperation with the U.S. Forest Service (FS), Douglas Ranger District, Douglas, Wyoming for lands within the Thunder Basin National Grasslands.

This report forms the basis for future coal leasing decisions and planning efforts and plan amendments for the Bureau of Land Management's (BLM) Buffalo RMP and the U.S. Forest Service plans currently in existence.

The Secretary of the Interior may not hold a competitive coal lease sale unless the lands containing the coal deposits have been included in a comprehensive land use plan. This has been completed for the coal areas in the Gillette and Sheridan areas of Wyoming. The BLM is currently operating under the 1985 Buffalo Resource Area (BRA) RMP for lands in the Gillette and Sheridan areas. The U.S. Forest Service, Thunder Basin National Grassland, is in the process of amending their current plan.

PROCEDURE

The major land use planning decision concerning the coal resource shall be the identification of areas acceptable for further consideration for leasing. This decision is based on the coal screening process. The coal screen is a four-part process consisting of the following steps:

1. Identify areas with coal development potential.
2. Apply the coal unsuitability criteria (20 criteria).
3. Assess multiple land use considerations.
4. Consult with surface owners concerning surface mining of federal coal under their private surface.

Each of the four coal screens must be completed and analyzed. The results are used in the RMPs to decide how to best manage the lands and which lands to manage.

Coal Development Potential

This is the first of the four-part screen. Only areas having coal development potential shall be acceptable for further consideration for leasing. The areas having coal development

potential are determined by the BLM with available data and any data submitted by the public or state agencies supporting coal development potential.

Coal development potential does not necessarily include all lands underlain by coal; only those lands that have development (mining) potential at the time of this analysis. Changes in the development potential with time will alter the lands included in this study. Some of the main factors which affect development potential include coal thickness, coal quality, and depth.

Lands determined not to have development potential today may have development potential in the future. This may be caused by many factors including but not limited to coal price, coal demand, new mining techniques, and coal quality. Coal screening will be completed again when the coal market changes or periodically as determined by the agencies.

Coal Unsuitability Criteria

The second review category is coal unsuitability. These criteria were established by the Surface Mining Control and Reclamation Act (SMCRA) of 1977. The list of criteria cited in the act is expanded in 43 CFR 4361. Coal unsuitability criteria are applied to lands having development potential. These criteria evaluate the lands to determine if they are suitable for further consideration for mining.

There are 20 unsuitability criteria. These criteria evaluate cultural and environmental aspects which may be affected by mining. Also important are protection of air, water, wetlands, riparian areas, and sole source aquifers, and the effects mining may have on adjacent National Park System, National Wildlife Refuge System, National System of Trails, and the National Wild and Scenic River System lands. After the criteria are applied, the lands may be classified three ways:

1. Suitable for further consideration for coal mining
2. A deferred decision may be made if the data is inconclusive or subject to change
3. The area may be classified unsuitable for further consideration for mining.

A deferred decision will allow lands to be considered for leasing until such time as a lease application is received or a coal tract is established and a more detailed and up-to-date study can be completed. This includes situations where making the decision today would be premature because changes can be expected to occur between the time the unsuitability criteria are first applied and a lease sale takes place. Mining affects may also be minimized by attaching stipulations to leases or by determining certain lands unsuitable to mining by surface methods.

Multiple Use Considerations

The third screening category is a multiple-use analysis. The BLM and FS are multiple use agencies. That is, we manage public lands and allow usage by multiple resource

customers. In certain instances, customers will be competing with each other for use of the surface; each, however, using the surface for a different purpose.

The existence of a coal lease shall not preclude leasing of other minerals for development. If multiple minerals are leased appropriate stipulations shall be attached to the leases to allow for simultaneous development. The same applies for the initiation of coal leases after other mineral leases are granted.

Surface Owner Consultation

The fourth screen is surface owner consultation. The BLM and FS shall consult with qualified surface owners to determine if they are for or against surface mining. Any surface owner which previously gave written consent to any party to conduct surface mining shall be deemed to have expressed a preference for mining. A qualified surface owner is one who holds legal title to the surface of split estate land, has their principal place of residence on the land, or receives a significant portion of their income from the land and have met these conditions for at least three years. If a significant number of surface owners have expressed a preference against mining, the area may be considered not acceptable for further consideration for surface mining.

HISTORY OF COAL SCREENING PROCESS

9/25/1992	Meeting in Buffalo, WY with resource specialists and BLM Wyoming state office personnel. Assignments were made for each specialist to cover on coal unsuitability criteria (CUC).
3/4/1993	Meeting in Casper with BLM, FS, and U.S. Fish and Wildlife Service (FWS) on how to proceed. This meeting was cancelled and rescheduled 3/22/93.
3/22/93	Meeting in Casper with BLM, FS, and FWS to identify and begin analyzing 20 coal unsuitability criteria and how to proceed with the exceptions.
4/3/93	Continuation of 3/22/93 meeting in Casper with BLM, FS, and FWS.
1/20/1994	Continuation of 4/3/93 meeting with BLM, FS, and FWS on current status and how to get it done.
3/3/1994	Continuation of 1/20/94 meeting with BLM, FS, and FWS.

3/2/1994	Coal screening process schedule updated to get project done by end of March 1994.
7/21/1994	Meeting with FS on CUC and current status of maps.
8/94	Maps given to BLM members and FS on CUC; comments due back by 9/30/94.
2/14/1996	Analysis of missing unsuitability criteria by Casper District.
Summer 1996	Landowners abstracted from Campbell County records.
Fall 1996	Surface owner consultation letters prepared for Gillette area.
Spring 1997	Landowners abstracted from Sheridan County records.
11/97	Finish draft report for specialists review.

The coal screen process was extended several times due to change in philosophies in the analysis of the Buffalo RMP update. This is the reason for breaks in time during the several segments of the coal screening process.

SUMMARY AND CONCLUSIONS OF THE COAL SCREENING PROCESS

Figure 1 illustrates the areas which have been determined to be unsuitable as a result of application of the four coal screens. A decision as to whether an area is unsuitable or not has been deferred in many cases because the particular unsuitability criteria is not static. The criteria will be reevaluated at the time of leasing so that the most current data can be used in the evaluation of the criteria. This applies to most of the wildlife criteria because wildlife is known to move around. It also applies to most roads because they can be moved at a later date. Making a decision at this time is premature. The data is insufficient to make a reasonable decision as to unsuitability at this time. This is the same procedure used in the 1985 BLM RMP and 1985 FS Plan classification where a "suitable pending further study" decision was made.

Table 1 summarizes the coal availability for the BRA. This includes all the coal with development potential and areas where coal mining would be unsuitable.

RESULTS OF THE COAL SCREENING PROCESS

Coal Development Potential

Coal underlies most of the BRA. Some of the world's thickest coal deposits occur in Johnson and Campbell counties, Wyoming. Much of this immense coal resource is not currently available for development due to market and economic considerations. Much of

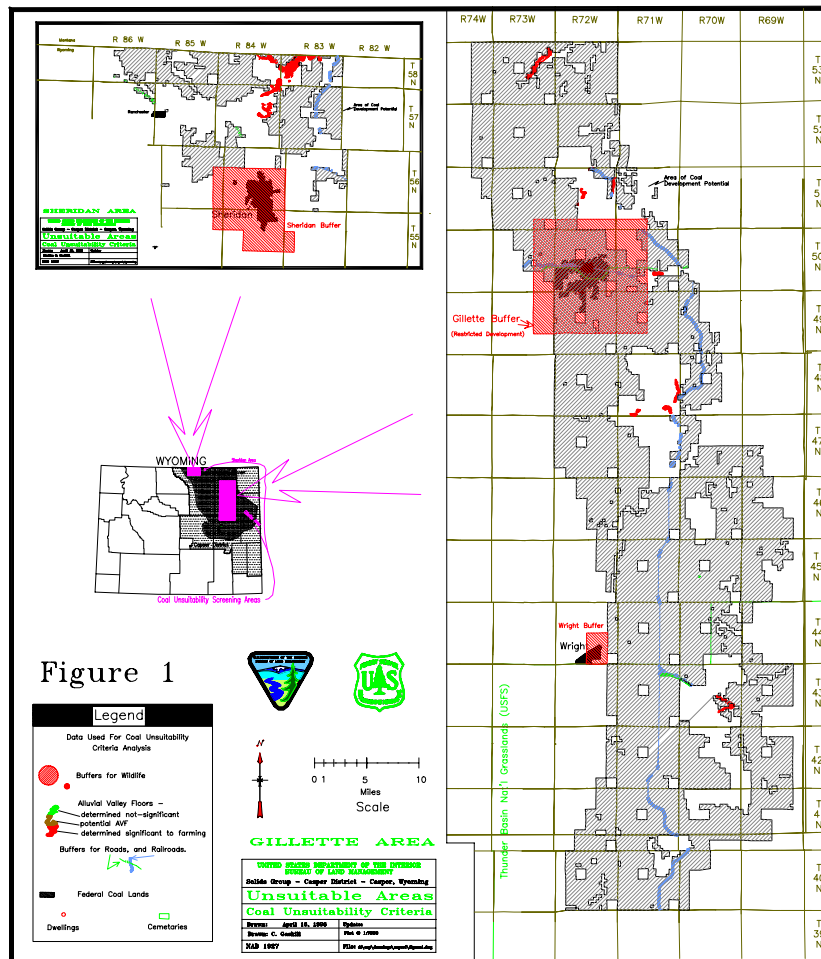
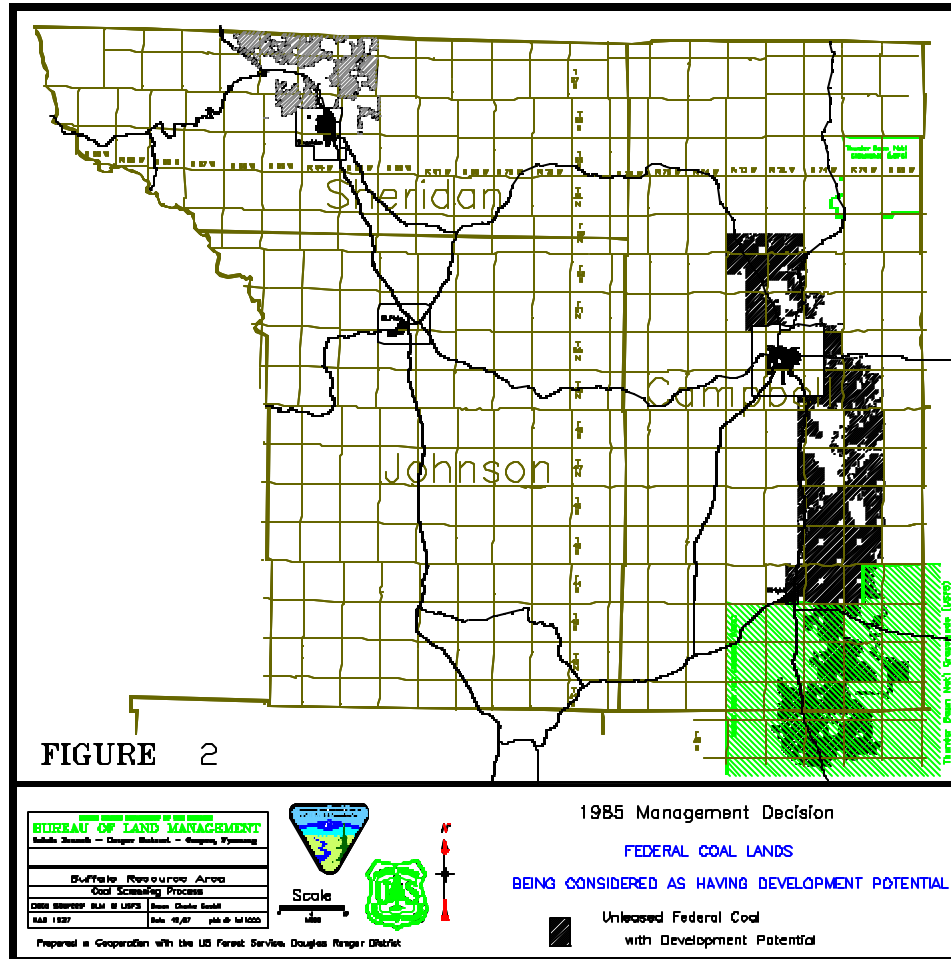


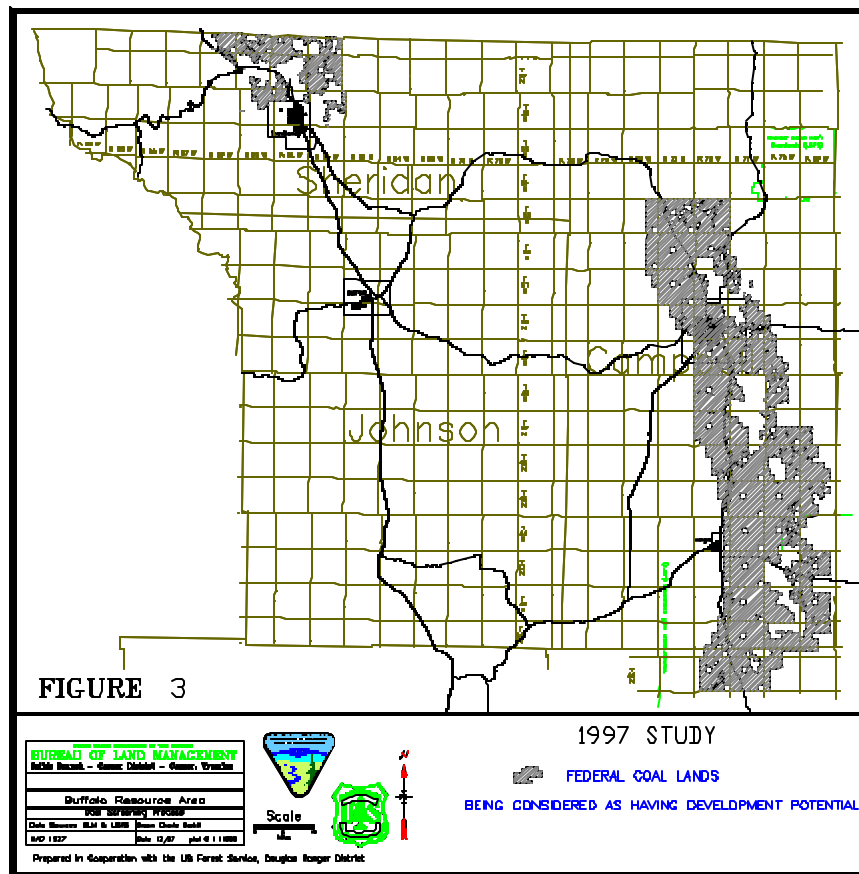
TABLE 1 UNSUITABILITY CRITERIA ASSESSMENT			
Area Determined Unsuitable	Coal (billion tons)	Average Coal Thickness (feet)	Acres
City Buffers	5.3	55	55,000
Roads = I-90	0.08	48	1,100
Roads = WY450 and rail	0.144	86	1,000
Rail = Main Trunk Line + Sheridan area (excludes WY450 and rail)	0.682	61	6,500
Rail = Sheridan area	0.02	20	500
Summary			
Total with development potential	50.25		494,000
Total determined unsuitable	6.2	56	63,600
Total Available	41.3	55	430,400

the thick coal is too deep to develop economically, and some is too poor quality (high sulfur, low Btu, or high ash). The coal is not thick everywhere. In some areas the thick coal splits into several thinner seams--each being too thin to mine. The entire resource area was analyzed in establishing the coal development potential areas.

Figure 2 illustrates the federal coal lands determined to have coal development potential under the 1985 Buffalo RMP and the 1985 FS plan. There are two areas identified. The largest area stretches from about 22 miles north of Gillette, Wyoming to about 25 miles south of Wright, Wyoming. This area is about 15 miles wide. The second area stretches from Sheridan, Wyoming to the Montana state line over an area about 20 miles wide.

This current study indicates the coal development potential areas should be made slightly larger. Figure 3 illustrates the federal coal lands determined to have coal development in today's market (based on this study). There are two areas identified again. The Sheridan area is the same as under current management. The Gillette area has changed slightly. It includes some additional lands east of the outcrop along most of the eastern border. There is one area southeast of Gillette that is slightly smaller than was determined in the current management situation. The northern end of the area is extended approximately 3





miles. The southern end is retracted about 1 mile. The western boundary is variable. In some areas it is trimmed slightly and others areas are extended up to 6 miles in a westerly direction.

The Sheridan area contains about 73,200 acres of federal coal lands. These lands contain an estimated 2.75 billion tons of potentially minable coal. This estimate is based on three tract studies (Ash Creek, Hidden Water, and Youngs Creek) which gives a fair estimate of the resources in the tract areas and a very rough estimate of the remaining acreage included in the federal coal lands. The new Gillette development potential area contains about 494,000 acres of federal coal lands. These lands contain about 47.5 billion tons of coal averaging 55 feet thick. Table 2 summarizes the two areas with coal development potential.

TABLE 2 COAL DEVELOPMENT POTENTIAL			
Area	Tons of Coal (billion)	Average Coal Thickness (feet)	Acres
Gillette	47.50	55	494,000
Sheridan	2.75	22	73,200
Total Reserves	50.25		567,200

The coal development potential area can be further subdivided into areas of high, medium, and low potential. Figure 4 illustrates the interpreted subdivisions based on coal thickness and quality.

Other areas in the Powder River Basin of Wyoming underlain by coal do not currently have development potential due to quality, thickness, and depth considerations. As economic conditions change, the development potential areas will be modified.

The remaining three coal screens will be applied to the coal development potential areas.

Details of the Application of the Unsuitability Criteria

The unsuitability criteria were analyzed by a team of resource specialists having knowledge of each of the criteria collectively. Members of the team were from the BLM, FS, and FWS.

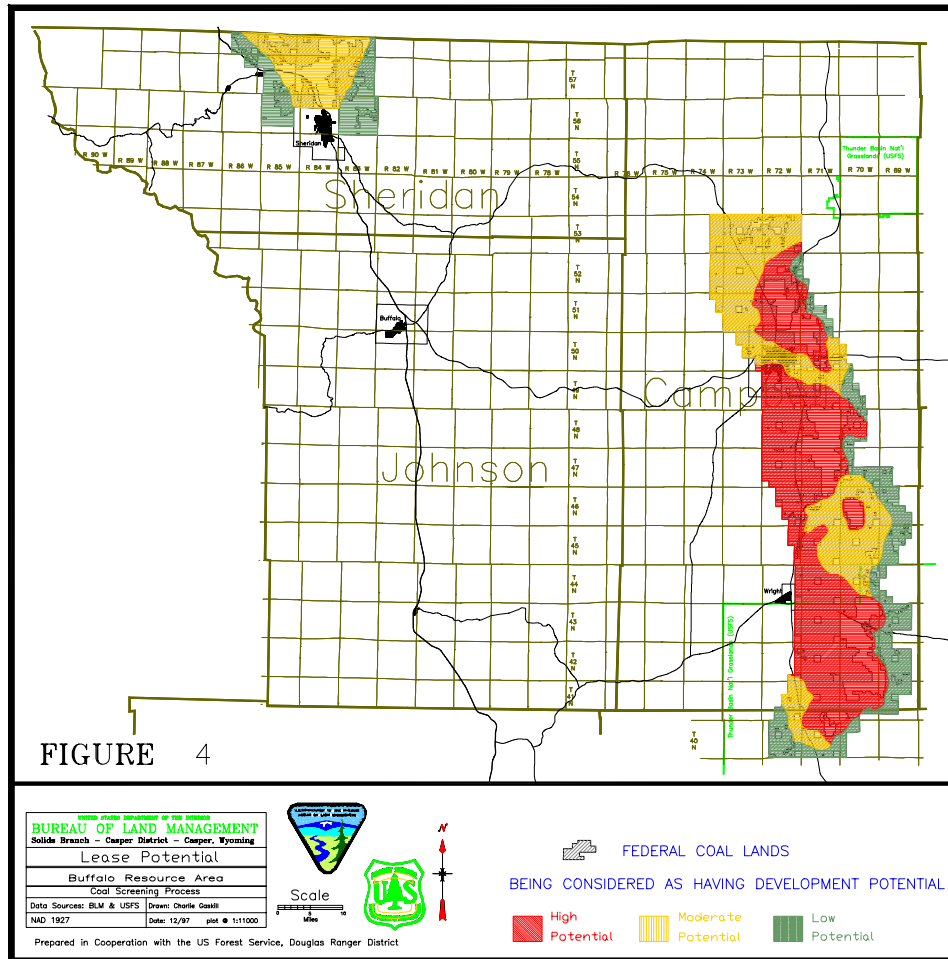


Figure 5 illustrates the Sheridan and Gillette development potential areas at a larger scale so more detail can be seen. The grey shaded areas illustrate the areas considered in the application of the criteria. The specialists identified resource data which applied to each of the unsuitability criteria. These data are illustrated on Figure 5 and explained in the following detailed analysis.

Criterion #1 - Federal Land Systems

All Federal lands included in the following land systems or categories shall be considered unsuitable: National Park System, National Wildlife Refuge System, National System of Trails, National Wilderness Preservation System, National Wild and Scenic Rivers System, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, National Forests, and Federal lands in incorporated cities, towns, and villages.

(2) Exceptions.

(i) A lease may be issued within the boundaries of any National Forest if the Secretary finds no significant recreational, timber, economic or other values which may be incompatible with the lease; and

(A) surface operations and impacts are incident to an underground coal mine, or

(B) where the Secretary of Agriculture determines, with respect to lands which do not have significant forest cover within those National Forests west of the 100th Meridian, that surface mining may be in compliance with the Multiple-Use Sustained-Yield Act of 1960, the Federal Coal Leasing Amendments Act of 1976 and the Surface Mining Control and Reclamation Act of 1977.

(ii) A lease may be issued within the Custer National Forest with the consent of the Department of Agriculture as long as no surface coal mining operations are permitted.

(3) Exemptions. The application of this criterion to lands within the listed land systems and categories is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.

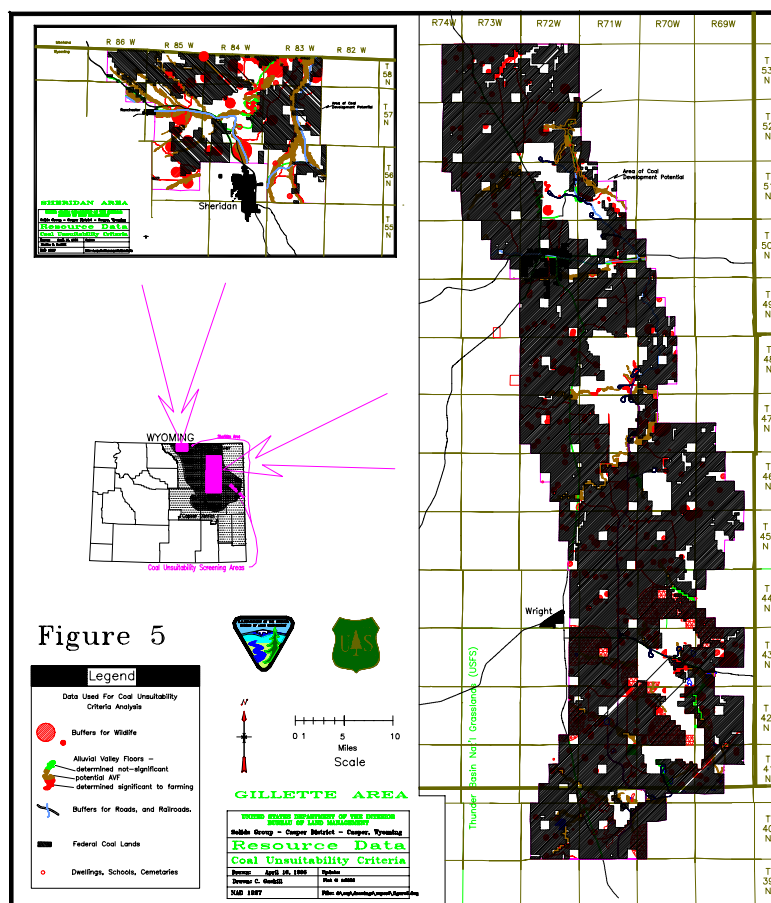
Findings. **Thunder Basin National Grassland.** The Thunder Basin National Grassland is not a proclaimed National Forest.

Bureau of Land Management-administered Lands. There are federal lands located around Gillette, Sheridan, and Wright that qualify for Criterion #1.

Recommendations. Use the buffers identified in the 1985 Buffalo RMP and exclude leasing from within these buffers except the Gillette buffer. The buffers will be larger than the incorporation boundary. The no-lease buffer was developed in conjunction with the multiple use analysis. Under the current management plan this buffer is 1 mile larger than the city planning buffer. For the Gillette buffer, there will be limited leasing only to those mines currently holding leases. This procedure is currently outlined in the Buffalo RMP.

Criterion #2 - Rights-of-way and Easements

(b)(1) Criterion Number 2. Federal lands that are within rights-of-way or easements or within



surface leases for residential, commercial, industrial, or other public purposes, on federally owned surface shall be considered unsuitable.

(2) Exceptions. A lease may be issued, and mining operations approved, in such areas if the surface management agency determines that:

(i) All or certain types of coal development (e.g., underground mining) will not interfere with the purpose of the right-of-way or easement; or

(ii) The right-of-way or easement was granted for mining purposes; or

(iii) The right-of-way or easement was issued for a purpose for which it is not being used; or

(iv) The parties involved in the right-of-way or easement agree, in writing, to leasing; or

(v) It is impractical to exclude such areas due to the location of coal and method of mining and such areas or uses can be protected through appropriate stipulations.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grassland. There are two major rights-of-way which lie within the Thunder Basin National Grassland. The Burlington-Northern Railroad crosses the coal development potential area for approximately 27 miles. Approximately 22 miles of rail cross federal surface. The average right-of-way width for the railroad is 400 feet. The Tri-County 230 KV transmission line right-of-way also crosses the review area. It parallels the Burlington-Northern railroad in the northern one-third of the review area for approximately 12 miles. It also parallels the railroad for a short distance near the active Antelope Mine.

Two state highway rights-of-way cross approximately 4.4 miles of federal surface. Wyoming Highway 450 crosses about 3.3 miles and Wyoming Highway 59 crosses about 1.1 miles. Several county road rights-of-way encounter public surface and cross approximately 29 miles.

Several other minor rights-of-way such as pipelines or small power transmission lines occur sporadically within the study area.

Bureau of Land Management-administered Lands. In the Gillette coal development potential area the following rights-of-ways have been issued:

2 rights-of-way for railroads	< ½ mile
25 REA electric line rights-of-way	
17 gas pipeline rights-of-way	
7 oil pipeline rights-of-way	
27 rights-of-way for road access	
4 rights-of-way for state and county roads	2.2 miles = county roads

200 feet for I-90.

- 5 rights-of-way for telephone lines
- 4 rights-of-ways for sites of various kinds

In the Sheridan coal development potential area there are several rights-of-ways which have been issued. They include:

- | | |
|--|----------|
| 1 railroad right of way | < ¼ mile |
| 1 right of way for I-90 | .6 mile |
| 2 rights-of-way for telephone lines | |
| 1 right-of-way for a water pipeline | |
| 1 right-of-way for a ditch | |
| 1 right-of-way for a REA electric line | |

Recommendations. **Thunder Basin National Grassland.** Determine that exceptions IV and V apply to the minor rights-of-way and either move the rights-of-way, get permission to use the right-of-way or attach appropriate stipulations to the lease or mining permit to allow for mining in or around the right-of-way. This also applies to the 230K transmission line in areas not covered below.

Determine that the north-south railroad right-of-way is unsuitable for further consideration for mining. Determine the 230K transmission is unsuitable where it parallels and is adjacent to the railroad right-of-way. Determine that Wyoming 450 is unsuitable east of the intersection with the main north-south railroad right-of-way. This is based on the fact that Wyoming 450 is a major public highway and two rail-loops, which service the Black Thunder Mine and Jacobs Ranch Mine, parallel it.

Bureau of Land Management-administered Lands. In both the Gillette and Sheridan areas, determine that the I-90 right-of-way is unsuitable for further consideration for mining. Determine that rights-of-way for railroads (not rail loops) on federal surface unsuitable. Apply Exceptions IV and V for state highways and other smaller rights-of-way suitable and apply stipulations as necessary at the time of leasing.

Criterion #3 - Buffer Zones for Rights-of-way, Communities, and Buildings

(c)(1) Criterion Number 3. The terms used in this criterion have the meaning set out in the Office of Surface Mining Reclamation and Enforcement regulations at Chapter VII of Title 30 of the Code of Federal Regulations. Federal lands affected by section 522(e)(4) and (5) of the Surface Mining Control and Reclamation Act of 1977 shall be considered unsuitable. This includes lands within 100 feet of the outside line of the right-of-way of a public road or within 100 feet of a cemetery, or within 300 feet of any public building, school, church, community or institutional building or public park or within 300 feet of an occupied dwelling.

(2) Exceptions. A lease may be issued for lands:

- (i) Used as mine access roads or haulage roads that join the right-of-way for a public road;

(ii) For which the Office of Surface Mining Reclamation and Enforcement has issued a permit to have public roads relocated;

(iii) If, after public notice and opportunity for public hearing in the locality, a written finding is made by the authorized officer that the interests of the public and the landowners affected by mining within 100 feet of a public road will be protected.

(iv) For which owners of occupied dwellings have given written permission to mine within 300 feet of their buildings.

(3) Exemptions. The application of this criterion is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.

Findings. Thunder Basin National Grasslands. There are no cemeteries, public buildings, schools, churches, community or institutional buildings, or public parks within the Grassland review area.

Wyoming 59 crosses the western portion of the Grasslands review area in a southeast/northwest direction for approximately 14 miles. The highway crosses approximately 12 miles of federal lands having coal development potential. Wyoming 59 has an average right-of-way width of 200 feet. The corridor for Wyoming 59, including a 100-foot buffer on either side of the right-of-way, will affect approximately 800 acres containing approximately 98 million tons of coal.

Wyoming 450 crosses the northern corner of the Grasslands review area in an east/west direction over a distance of approximately 16 miles. Approximately 12 miles overlie federal lands. Wyoming 450 from Wyoming 59 to a point just east of the existing Black Thunder and Jacobs Ranch mines was reconstructed and upgraded to state standards in its current location to better serve as access for the coal mining industry and is classified as a secondary Wyoming state highway. Portions of the right-of-way for Wyoming 450 are already under lease for the Black Thunder and Jacobs Ranch mines. Current plans call for relocation in the future. Wyoming 450 and its buffer affect approximately 750 acres of federal lands containing approximately 92 million tons of coal.

Approximately 63 miles of county roads cross the Grassland review area and federal lands. The average right-of-way is 75 feet. County roads and buffer areas are underlain by approximately 233 million tons of coal.

The Burlington Northern rail line crosses approximately 32 miles of federal lands. About 10 miles of rail loops serving the mines also cross federal lands.

There are 12 ranch headquarters within the study boundary. Eleven of the ranches are privately owned. One is owned by Peabody Coal Company and would not qualify under this criteria. Buffers around these affect about 72 acres.

Bureau of Land Management-administered Lands. For the Sheridan area, I-90 crosses the coal development potential (CDP) area for approximately 33 miles. It crosses

approximately 4.25 miles of federal lands and affects about 300 acres with its buffer. Wyoming 338 and 345 and Federal Highway 14 cross the CDP area for approximately 30 miles. These highways have a right-of-way width of 150 feet over federal lands for a distance of 5 miles affecting 303 acres. Numerous county roads cross through the CDP area over approximately 74 miles. The county roads extend over federal lands for a distance of 27 miles and have an average right of way of 75 feet affecting 1145 acres.

There are approximately 25 occupied dwellings in the coal development potential area on Federal lands. These consist mainly of ranch houses. There are no schools and no cemeteries in the area.

For the Gillette area, I-90 crosses the area over a distance of 16 miles. It has a right-of-way of 250 feet. Approximately 13 miles of I-90 crosses federal lands affecting 1,100 acres.

Approximately 122 miles of state and federal highways cross the CDP area. The right-of-way is 150 feet. Approximately 92 miles cross federal lands affecting approximately 5,575 acres.

Several county highways run through the area for a distance of 272 miles. They have an average right-of-way of 75 feet. Approximately 218 miles cross federal lands affecting 9,250 acres.

There are about 150 occupied dwellings in the coal development area on federal lands. There is one school, one cemetery, and no public buildings in the area on federal lands. The school is a one-room school located in a remote location. The cemetery is a small rural cemetery.

Recommendations. **Thunder Basin National Grasslands.** Determine that Wyoming 450 east of the intersection with the north-south main railroad trunk line be determined unsuitable for mining leaving this area as a transportation corridor for rail servicing the Black Thunder and Jacobs Ranch mines and for Wyoming 450. Determine that exception (ii) or (iii) above will be applicable to state highways and county roads and defer a decision at this time making the assumption that the roads can be moved in the future. Determine that exception (iv) will apply to occupied dwellings and defer a decision at this time.

This recommendation changes the previous determination concerning Wyoming 59 and 450. Previously Wyoming 59 was considered unsuitable and Wyoming 450 suitable.

Bureau of Land Management-administered Lands. For both the Sheridan and Gillette areas, determine that I-90 is unsuitable for mining. Determine that exceptions (ii) and (iii) will be applicable to all state, other federal highways, and county roads at a later time and defer a decision until such time leasing occurs. Determine that exceptions (iv) will apply to occupied dwellings at a later time and defer a decision until leasing occurs. Determine

that cemeteries and the 100-foot buffer is unsuitable for mining. Determine exceptions (iii) and (iv) could apply, and a decision will be deferred until a later date when the mining is approaching the school.

Criterion #4 - Wilderness Study Areas

(d)(1) Criterion Number 4. Federal lands designated as wilderness study areas shall be considered unsuitable while under review by the Administration and the Congress for possible wilderness designation. For any Federal land which is to be leased or mined prior to completion of the wilderness inventory by the surface management agency, the environmental assessment or impact statement on the lease sale or mine plan shall consider whether the land possesses the characteristics of a wilderness study area. If the finding is affirmative, the land shall be considered unsuitable, unless

issuance of noncompetitive coal leases and mining on leases is authorized under the Wilderness Act and the Federal Land Policy and Management Act of 1976.

(2) Exemption. The application of this criterion to lands for which the Bureau of Land Management is the surface management agency and lands in designated wilderness areas in National Forests is subject to valid existing rights.

Findings. Thunder Basin National Grasslands. None of the lands involved in the review are within a wilderness study area.

Bureau of Land Management-administered Lands. None of the lands involved in the review are within a wilderness study area.

Recommendations. Determine lands are available for further consideration.

Criterion #5 - Scenic Areas

(e)(1) Criterion Number 5. Scenic Federal lands designated by visual resource management analysis as Class I (an area of outstanding scenic quality or high visual sensitivity) but not currently on the National Register of Natural Landmarks shall be considered unsuitable.

(2) Exception. A lease may be issued if the surface management agency determines that surface coal mining operations will not significantly diminish or adversely affect the scenic quality of the designated area.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. None of the lands on the Thunder Basin National Grassland meet the scenic criteria as defined above.

Bureau of Land Management-administered Lands. There are no lands within the study area which meet the scenic lands criteria as outlined above.

Recommendations. Determine all lands are available for further consideration.

Criterion #6 - Land Used for Scientific Study

(f)(1) Criterion Number 6. Federal lands under permit by the surface management agency, and being used for scientific studies involving food or fiber production, natural resources, or technology demonstrations and experiments shall be considered unsuitable for the duration of the study, demonstration or experiment, except where mining could be conducted in such a way as to enhance or not jeopardize the purposes of the study, as determined by the surface management agency, or where the principal scientific user or agency gives written concurrence to all or certain methods of mining.

(2) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grassland. There are two sites on the National Grasslands within the review area that are being used for scientific study. The vegetative monitoring studies on one site (Sec. 1, T. 41 N., R. 71 W.; 640 acres) have been conducted by the University of Wyoming since 1936. The studies on the other site (NW¼NW¼, Sec. 30, T. 42 N., R. 69 W.) have been conducted by Forest Service personnel since 1962. This site is monitoring vegetation for range condition evaluations and is already within an existing coal lease and does not qualify.

There are also small additional scientific study areas (less than one acre tracts - enclosures) being used to gauge reclamation success associated with specific existing or proposed mines. These small areas are within existing leases and do not qualify. Five enclosures that provide specialized wildlife habitat are also in the review area. No scientific studies are being conducted on these five sites.

Bureau of Land Management-administered Lands. There is one site located south of Gillette. The Hoe Creek site is located in T. 47 N., R. 72 W., sec. 7, W½/SW. This site was used to study the feasibility of coal gasification by burning the coal. The coal under the lands will be detrimentally affected by the process and will mostly be burned. The site is presently being reclaimed.

Recommendations. Thunder Basin National Grassland. Determine the NE¼ of Section 1, T. 41 N., R. 71 W. of the University of Wyoming site is suitable. Defer a decision on the remainder of the site until leasing.

Bureau of Land Management-administered Lands. Determine the Hoe Creek site located in Section 7, T. 47 N., R. 72 W. is suitable.

Criterion #7 - Cultural Resources

(g)(1) Criterion Number 7. All publicly or privately owned places which are included in the National Register of Historic Places shall be considered unsuitable. This shall include any areas that the surface management agency determines, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, are necessary to protect the inherent values of the property that made it eligible for listing in the National Register.

(2) Exceptions. All or certain stipulated methods of coal mining may be allowed if, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, they are approved by the surface management agency, and, where appropriate, the State or local agency with jurisdiction over the historic site.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. There are no cultural sites within the study area that are listed on the National Register of Historic Places.

Bureau of Land Management-administered Lands. There are no cultural sites within the study area that are currently listed on the National Register of Historic Places.

Recommendations. Thunder Basin National Grasslands. Continue using the standard "archeological stipulation" on all new coal leases.

Bureau of Land Management-administered Lands. Continue using the standard "archeological stipulation" on all new coal leases.

Standard Archeological Stipulation for Cultural Resources

(1) Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall conduct a cultural resource intensive field inventory in a manner specified by the authorized officer of the BLM or of the surface managing agency, if different, on portions of the mine plan area and adjacent areas, or exploration area, that may be adversely affected by lease-related activities and which were not previously inventoried at such a level of intensity. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archeologist, historian, historical architect, as appropriate), approved by the authorized officer of the surface managing agency (BLM, if the surface is privately owned), and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Assistant Director of the Western Support Center of the Office of Surface Mining, the authorized officer of the BLM, if activities are associated with coal exploration outside an approved mining permit area (hereinafter called Authorized Officer), and the Authorized Officer of the surface managing agency, if different. The lessee shall undertake measures, in accordance with instructions from the Assistant Director, or Authorized Officer, to protect cultural resources on the leased lands. The lessee shall not commence the surface disturbing activities until permission to proceed is given by the Assistant Director or Authorized Officer.

(2) The lessee shall protect all cultural resource properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of approved mining and reclamation or exploration plan.

(3) The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

(4) If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of the Assistant Director or Authorized Officer, or

the Authorized Officer of the surface managing agency, if the Assistant Director is not available. The lessee shall not disturb such resources except as may be subsequently authorized by the Assistant Director or Authorized Officer. Within two working days of notification, the Assistant Director or Authorized Officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the surface managing agency unless otherwise specified by the Authorized Officer of the BLM or of the surface managing agency, if different.

(5) All cultural resources shall remain under the jurisdiction of the United States until ownership is determined under applicable law.

Criterion #8 - Natural Areas

(h)(1) Criterion Number 8. Federal lands designated as natural areas or as National Natural Landmarks shall be considered unsuitable.

(2) Exceptions. A lease may be issued and mining operation approved in an area or site if the surface management agency determines that:

(i) The use of appropriate stipulated mining technology will result in no significant adverse impact to the area or site; or

(ii) The mining of the coal resource under appropriate stipulations will enhance information recovery (e.g., paleontological sites).

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which includes operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. None of the lands involved in the review area are designated as natural areas or as National Natural Landmarks at this time. There are no unsuitable findings.

Bureau of Land Management-administered Lands. None of the lands involved in the review area are designated as natural areas or as National Natural Landmarks. There are no unsuitable findings.

Recommendations. No lands should be considered unsuitable under this criterion at this time.

Criterion #9 - Critical Habitat for Threatened or Endangered Plant and Animal Species

(i)(1) Criterion Number 9. Federally designated critical habitat for listed threatened or endangered plant and animal species, and habitat proposed to be designated as critical for listed threatened or endangered plant and animal species or species proposed for listing, and habitat for Federal threatened or endangered species which is determined by the Fish and Wildlife Service and the surface management agency to be of essential value and where the presence of threatened or endangered species

has been scientifically documented, shall be considered unsuitable.

(2) Exception. A lease may be issued and mining operations approved if, after consultation with the Fish and Wildlife Service, the Service determines that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. **Thunder Basin National Grasslands.** There is no federally designated critical habitat for threatened or endangered plant or animal species within the review area. Likewise, the FS and FWS have not documented the presence of habitat to be of essential value for threatened and endangered species. Therefore, there are no unsuitable findings.

Bureau of Land Management-administered Lands. There is no federally designated critical habitat for threatened or endangered plant or animal species within the review area. Likewise the BLM and FWS have not documented the presence of habitat to be essential for threatened and endangered species.

Recommendations. All lands in the review area are available for further consideration.

Criterion #10 - State Listed Threatened or Endangered Species

(j)(1) Criterion Number 10. Federal lands containing habitat determined to be critical or essential for plant or animal species listed by a state pursuant to state law as endangered or threatened shall be considered unsuitable.

(2) Exception. A lease may be issued and mining operations approved if, after consultation with the state, the surface management agency determines that the species will not be adversely affected by all or certain stipulated methods of coal mining.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. **Thunder Basin National Grasslands.** The State of Wyoming does not maintain a state list of threatened and endangered species of plants or animals. Therefore, this criterion does not apply to the area.

Bureau of Land Management-administered Lands. The state of Wyoming does not maintain a state list of threatened and endangered species of plants or animals. Therefore this criterion does not apply to the review area.

Recommendations. All lands within the review are available for further consideration.

Criterion #11 - Bald or Golden Eagle

(k)(1) Criterion Number 11. A bald or golden eagle nest or site on Federal lands that is determined to be active and an appropriate buffer zone of land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

(2) Exceptions. A lease may be issued if:

(i) It can be conditioned in such a way, either in manner or period of operation, that eagles will not be disturbed during breeding season; or

(ii) The surface management agency, with the concurrence of the Fish and Wildlife Service, determines that the golden eagle nest(s) will be moved.

(iii) Buffer zones may be decreased if the surface management agency determines that the active eagle nests will not be adversely affected.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. Within the boundary of the review area, there are slightly over 100 golden eagle nests that have been active during recent years. This number fluctuates from year to year. Approximately 20 of the nests are located on lands already under lease and scheduled for surface mining activities in the future.

Nests have been successfully moved off the lease area, and the eagle pairs have adopted many of the new nest sites. It is quite possible that additional nests may be moved if state and federal permits are acquired.

Biological buffer zones will be established around each of the existing nest at a later date. These buffers will be determined in consultation with the FWS.

There are three bald eagle nest sites which occur within the boundary of the review area. None of these nest sites have successfully hatched or fledged young. None of these nests have been active in several years.

Bureau of Land Management-administered Lands. Within the boundary of the review area, there are approximately 73 golden eagle nest sites that have been active during recent years. Nine of the nests are located on lands already under lease for surface mining activities, and 13 nests are located on state or private coal areas or city buffer zones and are not applicable to unsuitability review.

There is one bald eagle nest site in the Sheridan review area located on private land.

Eagle nest location and activity changes from year to year. An area that is classified as unsuitable today may not be so in the future and vice-versa. This is due to nest activity, location of nests, location of new nests, elimination of old nests by natural causes (for example, lightning, wind, etc.) and nest abandonment.

Recommendations. Determine that exceptions (i), (ii), and (iii) can apply, and defer a decision till the time of leasing. Re-evaluate this criteria prior to lease issuance on a case-specific environmental analysis. Specific buffer zones will be drawn for those nests that are on lands which go to lease with consultation with the FWS.

This removes any areas considered unsuitable in the previous assessment and places them under a deferred decision status. They will be analyzed on a case-by-case basis at the time a lease action is undertaken for the areas involved.

Criterion #12 - Bald and Golden Eagle Roost and Concentration Areas

(1)(1) Criterion Number 12. Bald and golden eagle roost and concentration areas on Federal lands used during migration and wintering shall be considered unsuitable.

(2) Exception. A lease may be issued if the surface management agency determines that all or certain stipulated methods of coal mining can be conducted in such a way, and during such periods of time, to ensure that eagles shall not be adversely disturbed.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. There are 16 bald and golden eagle roosts located inside the review area boundary as well as 3 less than 1 mile from the review area.

Bureau of Land Management-administered Lands. There is one bald eagle roost located in the review area.

Recommendations. Thunder Basin National Grasslands. Determine that exception (2) may apply and defer a decision at this time. Re-evaluate this criteria prior to lease issuance during a case-specific environmental analysis. Biological buffer zones will be established around each existing nest at a later date. These buffers will be determined in consultation with the FWS.

Bureau of Land Management-administered Lands. Determine that exception (2) may apply and defer a decision at this time. Re-evaluate this criteria prior to lease issuance during a case-specific environmental analysis. A biologic buffer zone for this roost site will be designated in consultation with the FWS should this roost area be considered for a specific lease.

This removes any areas considered unsuitable in the previous assessment and places them under a deferred decision status. They will be analyzed on a case-by-case basis at the time a lease action is undertaken for the areas involved.

Criterion #13 - Falcon Nesting Site(s) and Buffer Zone(s)

(m)(1) Criterion Number 13. Federal lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of Federal land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

(2) Exception. A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the falcon habitat during the periods when such habitat is used by the falcons.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. There are three known prairie falcon nest sites within the review area, and one nest site within less than ½ mile of the review area.

Bureau of Land Management-administered Lands. There are three prairie falcon nesting sites in the review area.

Recommendations. Thunder Basin National Grasslands. Determine that exception (2) will apply and defer a final determination. Re-evaluate this criteria prior to lease issuance during a case-specific environmental analysis.

Bureau of Land Management-administered Lands. Determine that exception (2) will apply and defer a final determination. Re-evaluate this criteria prior to lease issuance during a case-specific environmental analysis. A biologic buffer zone will be designated in consultation with the FWS should these nest sites be included in areas designated for a specific coal lease.

This removes any areas considered unsuitable in the previous assessment and places them under a deferred decision status. They will be analyzed on a case-by-case basis at the time a lease action is undertaken for the areas involved.

Criterion #14 - Habitat for Migratory Bird Species

(n)(1) Criterion Number 14. Federal lands which are high priority habitat for migratory bird species of high Federal interest on a regional or national basis, as determined jointly by the surface management agency and the Fish and Wildlife Service, shall be considered unsuitable.

(2) Exception. A lease may be issued where the surface management agency, after consultation

with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the migratory bird habitat during the periods when such habitat is used by the species.

(3) Exemption. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. There are three bald eagle nest sites which occur within the boundary of the review area. None of these nest sites have successfully hatched or fledged young. None of these nests have been active in several years. There are 16 bald eagle roosts located inside the review area boundary as well as three less than 1 mile from the review area.

Within the boundary of the review area, there are slightly over 100 golden eagle nests that have been active during recent years. Twenty of the nests are located on lands already under lease and scheduled for surface mining activities in the future.

There are three known prairie falcon nest sites within the review area, and one nest site within less than ½ mile of the review area.

There are 131 known ferruginous hawk nests within the review area. Many of these nests are alternate nests, and activity will need to be determined during the leasing analysis.

There are two known Richardson's merlin nests within the review area.

There are 2,950 known acres of mountain plover habitat within the review area. Of this acreage, 665 are presently on existing leases.

Habitat exists for all of the migratory birds of high federal interest within the review area. Many of these species will also be evaluated through a biological evaluation of Region 2 sensitive wildlife species for this area.

Bureau of Land Management-administered Lands. Within the boundary of the review area there are 73 golden eagle nest sites and 1 bald eagle nest site. Of this, 22 nest sites and the bald eagle nest site are located on lands previously leased for surface mining location or on state and private coal areas.

There are three prairie falcon nest sites.

There are 82 ferruginous hawk nest sites in the review area that have been active during recent years. Four nest sites are located on lands presently under lease for coal mining; 10 nests occur on state or private mineral lands not considered for unsuitability review. It should be emphasized that many ferruginous hawk nest are alternate nest sites of the same pair due to the nature of the species' nesting habits (that is, the total number of nest sites do not reflect the actual ferruginous hawk nesting population).

There are three known burrowing owl nest locations in the review area. In the Sheridan review area there is a nesting population of Lewis woodpecker in which biologic buffer zones have previously been delineated. Each of the nest locations are plotted on the review area location map and are for graphic purposes only.

Recommendations. Thunder Basin National Grasslands. Determine that exception (2) will apply and defer a final determination. Re-evaluate this criteria prior to lease issuance during a case-specific environmental analysis.

Bureau of Land Management-administered Lands. Determine that exception (2) will apply and defer a final determination. Re-evaluate this criteria prior to lease issuance during a case-specific environmental analysis. Should specific lease areas include any of the above species, a biologic buffer zone will be designated for each nesting area, in consultation with the FWS.

This removes any areas considered unsuitable in the previous assessment and places them under a deferred decision status. They will be analyzed on a case-by-case basis at the time a lease action is undertaken for the areas involved.

Criterion #15 - Fish and Wildlife Habitat for Resident Species

(o)(1) Criterion Number 15. Federal lands which the surface management agency and the state jointly agree are for resident species of fish, wildlife and plants of high interest to the state and which are essential for maintaining these priority wildlife species shall be considered unsuitable. Examples of such lands which serve a critical function for the species involved include:

- (i) Active dancing and strutting grounds for sage grouse, sharp-tailed grouse, and prairie chicken;
- (ii) Winter ranges most critical for deer, antelope, and elk;
- (iii) Migration corridors for elk; and
- (iv) Extremes of range for plant species;

A lease may be issued if, after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected.

(2) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. Fourteen sage grouse leks were identified within the review area. Three of these leks are presently within lease boundaries. Mitigation plans for protecting these three leks and re-establishing the dancing and strutting grounds have been developed in the mine plans.

Bureau of Land Management-administered Lands. There are 21 sage grouse breeding areas in the review area. Of the total leks, five are on areas presently leased for coal mining and three are on state or private or city buffer zones unavailable for further consideration.

There are nine sharptailed grouse breeding areas in the review area. Of these nine leks, five are on state or private minerals or presently under lease for coal mining and unavailable for further consideration.

There is no crucial big game habitat in the review area.

Recommendations. Thunder Basin National Grasslands. Determine that exception (2) will apply and defer a final determination. Re-evaluate this criteria prior to lease issuance during a case-specific environmental analysis.

Bureau of Land Management-administered Lands. Determine that exception (2) will apply and defer a final determination. Re-evaluate this criteria prior to lease issuance during a case-specific environmental analysis. Specific buffer zones will be drawn in consultation with the Wyoming Game and Fish Department (WGFD) for grouse breeding and nesting areas should any of these sites be considered for additional leasing.

This removes any areas considered unsuitable in the previous assessment and places them under a deferred decision status. They will be analyzed on a case-by-case basis at the time a lease action is undertaken for the areas involved.

Criterion #16 - Floodplains

(p)(1) Criterion Number 16. Federal lands in riverine, coastal and special floodplains (100-year recurrence interval) on which the surface management agency determines that mining could not be undertaken without substantial threat of loss of life or property shall be considered unsuitable for all or certain stipulated methods of coal mining.

(2) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. The FS has determined that the identified floodplains could potentially be mined. Therefore, all lands within the review area are available for further consideration.

Bureau of Land Management-administered Lands. The BLM has determined that the identified floodplains could potentially be mined. Therefore, all lands within the review area are available for further consideration.

Recommendations. Thunder Basin National Grasslands. All lands should be available for mining through the use of site-specific stipulations and resource protection

safeguards to be developed through the site-specific analysis and mining and reclamation planning process.

Bureau of Land Management-administered Lands. All lands should be available for mining through the use of site-specific stipulations and resource protection safeguards to be developed through the site-specific analysis and mining and reclamation planning process.

Criterion #17 - Municipal Watersheds

(q)(1) Criterion Number 17. Federal lands which have been committed by the surface management agency to use as municipal watersheds shall be considered unsuitable.

(2) Exception. A lease may be issued where the surface management agency in consultation with the municipality (incorporated entity) or the responsible governmental unit determines, as a result of studies, that all or certain stipulated methods of coal mining will not adversely affect the watershed to any significant degree.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. There are no designated municipal watersheds involved within the review area.

Bureau of Land Management-administered Lands. There are no designated municipal watersheds involved within the review area.

Recommendations. Thunder Basin National Grasslands. All lands should be available for further consideration.

Bureau of Land Management-administered Lands. All lands should be available for further consideration.

Criterion #18 - National Resource Waters

(r)(1) Criterion Number 18. Federal lands with National Resource Waters, as identified by states in their water quality management plans, and a buffer zone of Federal lands 1/4 mile from the outer edge of the far banks of the water, shall be unsuitable.

(2) Exception. The buffer zone may be eliminated or reduced in size where the surface management agency determines that it is not necessary to protect the National Resource Waters.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. There are no designated national

resource waters located within the review area boundary.

Bureau of Land Management-administered Lands. There are no designated national resource waters located within the review area boundary.

Recommendations. Thunder Basin National Grasslands. All lands are available for further consideration.

Bureau of Land Management-administered Lands. All lands are available for further consideration.

Criterion #19 - Alluvial Valley Floors (AVFs)

(s)(1) Criterion Number 19. Federal lands identified by the surface management agency, in consultation with the state in which they are located, as alluvial valley floors according to the definition in §3400.0-5(a) of this title, the standards in 30 CFR Part 822, the final alluvial valley floor guidelines of the Office of Surface Mining Reclamation and Enforcement when published, and approved state programs under the Surface Mining Control and Reclamation Act of 1977, where mining would interrupt, discontinue, or preclude farming, shall be considered unsuitable. Additionally, when mining Federal land outside an alluvial valley floor would materially damage the quantity or quality of water in surface or underground water systems that would supply alluvial valley floors, the land shall be considered unsuitable.

(2) Exemptions. This criterion does not apply to surface coal mining operations which produced coal in commercial quantities in the year preceding August 3, 1977, or which had obtained a permit to conduct surface coal mining operations.

Findings. Thunder Basin National Grasslands. The FS, in conjunction with the Land Quality Division of the Wyoming Department of Environmental Quality (DEQ), have identified approximately 10,000 acres of lands containing AVFs or potential AVFs within the review area. This involves portions of Sand Creek, Antelope Creek, School Creek, Porcupine Creek, Spring Creek, Little Thunder Creek, Black Thunder Creek, and Logan Draw.

The study identified approximately 8,000 acres of potential AVFs, approximately 400 acres already determined as significant to farming (agriculture), and approximately 1,600 acres determined to be not significant to farming.

Bureau of Land Management-administered Lands. Based on studies by the BLM and the Land Quality Division of the Wyoming DEQ there are approximately 36,100 acres of AVFs which have been identified. This includes approximately 31,100 acres of potential AVFs, approximately 4,000 acres of AVFs significant to farming, and approximately 1,000 acres not significant to farming.

Recommendations. Thunder Basin National Grasslands. Consider approximately 400 acres as unsuitable for further consideration for mining because the areas have been determined to contain AVFs significant to farming. Defer a decision on the remaining areas until site-specific leasing becomes involved. Re-evaluate site specific AVFs at time

of leasing with final consultation with Wyoming DEQ before any leasing or surface-disturbing activities associated with the potential AVFs.

Bureau of Land Management-administered Lands. Consider approximately 4,000 acres as unsuitable for further consideration for mining because the areas have been determined to contain AVFs significant to farming. Defer a decision on the remaining areas until site-specific leasing becomes involved. Re-evaluate site specific AVFS at time of leasing with final consultation with Wyoming DEQ before any leasing or surface-disturbing activities associated with the potential AVFs.

Criterion #20 - State or Indian Tribe Proposed Criteria

(t)(1) Criterion Number 20. Federal lands in a state to which is applicable a criterion (i) proposed by the state or Indian tribe located in the planning area, and (ii) adopted by rulemaking by the Secretary, shall be considered unsuitable.

(2) Exceptions. A lease may be issued when:

(i) Such criterion is adopted by the Secretary less than 6 months prior to the publication of the draft comprehensive land use plan or land use analysis, plan, or supplement to a comprehensive land use plan, for the area in which such land is included, or

(ii) After consultation with the state or affected Indian tribe, the surface management agency determines that all or certain stipulated methods of coal mining will not adversely affect the value which the criterion would protect.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Findings. Thunder Basin National Grasslands. There are no criterion proposed by state or Indian tribes that have been approved by the Secretary of the Interior.

Bureau of Land Management-administered Lands. There are no criterion proposed by state or Indian tribes that have been approved by the Secretary of the Interior.

Recommendations. Thunder Basin National Grasslands. Determine all lands are available for further consideration.

Bureau of Land Management-administered Lands. Determine all lands are available for further consideration.

Results of Multiple-use Analysis

Current multiple-use conflicts consist of multiple mineral leasing (coal versus oil and gas) and municipal/residential development. Both problems were recognized in the 1985 RMP and resolutions were adopted.

Oil and Gas Conflicts

The current RMP planning decisions are as follows.

1. On existing coal leases with approved mining and reclamation plans, authorize oil and gas drilling and production only where such activities would not conflict with coal mining. In cases where oil and gas conflicts cannot be resolved, oil and gas drilling and production will be deferred.
2. Defer coal leasing in producing oil and gas fields unless or until coal development will not interfere with the economic recovery of the oil and gas resource, as determined case by case by the BLM.

As these decisions were being carried out, problems and questions arose. Situations also arose which were not evaluated. Some of these are:

1. Why defer coal leasing in a producing oil field and not defer oil and gas leasing in a producing coal mine?

Result: A policy was initiated about 1990 to defer all oil and gas leasing in coal leases and permit boundaries. This policy was loosened and evaluations began for each oil and gas lease to determine if there would be a parcel-specific conflict with coal development. In many cases it was determined there would be no conflict, and these parcels were allowed to go to lease. As time went on, interested oil and gas operators called to see if they could lease specific parcels within coal leases. A team was set up to come up with solutions to this problem. This led to the establishment of a stipulation to be put on oil and gas leases within existing coal leases. The stipulation is intended to protect the valid existing rights for coal development and operations on, over, and underlying a lease. The current stipulation is as follows:

Current oil and gas stipulation: (1) Surface occupancy or use will be restricted or prohibited within areas of conflict with ongoing coal mining activities. An acceptable plan for mitigation must be negotiated between the oil and gas and coal lessees, and approved by the authorized officer; (2) "affected area" (3) protecting the valid existing rights for coal development and operations on, over and underlying this lease.

Development of the current stipulation was considered maintenance for the RMP because it did not change the intent of the original decisions. It does however, clarify management procedures of the mineral estates to meet the intent of the RMP.

Municipal/Residential Conflicts

The community/municipal/residential multiple-use conflict was addressed in the 1985 RMP by applying buffers around the current municipal planning boundaries. The buffer size is 3 miles larger than the planning boundary. The 1985 management decision for communities is as follows.

Conflict: Coal development within the boundaries of cities and towns or within local planning boundaries would result in unavoidable local adverse social and economic impacts.

Decision: Community buffers will be defined for the towns of Gillette, Sheridan, Buffalo and Wright. These buffers encompass about 55,000 acres of uncommitted Federal coal lands containing about 5.3 billion tons of coal. These buffers are unavailable for mining.

The buffer around Gillette had many active coal leases in it when the buffer was formed. These mining operations were allowed to continue. Since the buffer was initiated a coal mine has requested a lease modification to pick up a small portion of coal so that it would not be left behind, and another mine requested some coal for similar purposes. It was determined that a change in the handling of the Gillette buffer would be necessary. An amendment to the plan now allows for leasing actions adjacent to existing mines. These leasing actions cannot extend more than 1 mile beyond existing coal lease boundaries.

Coal Bed Methane Conflicts

This is specifically the drilling for and the extracting of coal bed methane adjacent to the producing mines. The problem is currently occurring in the Gillette area and could spread to the Sheridan area. This conflict began in the early 1990s and continues to grow.

Coal bed methane extraction involves drilling into the coal and pumping water from the coal in an attempt to lower the hydrostatic head on the coal. This lower pressure will cause the release of gas which is adsorbed onto the coal. The gas production begins slowly and generally increases as the pressure drops over the years.

There are several problems that arise from coal bed methane drilling. One problem is from the drilling of the coal bed methane wells immediately in front of the active mining operations. Since it takes many years to produce the coal bed methane, the coal companies are hindered by the coalbed methane operators and either have to buy the oil and gas wells out at inflated prices or bypass the coal which is not in the federal interest. The legal rights to the mineral estate (either coal or oil and gas) rests in the time at which each lessee received the lease (first in time, first in right--FITFIR). If the coal company acquired the lease after the oil and gas company, the coal estate is in jeopardy and vice versa.

The second problem arises out of the fact that nearly all the coal in the Gillette area is under federal ownership. However, the oil and gas estate is only about 60% federal. This means a private concern can drill a well into federal coal and produce it, thus holding up federal coal production.

The third problem stems from the permitting and environmental side. The coal companies are operating under mining permits which were developed based on environmental effects that they themselves would cause. The environmental effects are compounded greatly by the coal bed methane development. This could change how the coal companies can mine in the future.

The BLM is currently issuing oil and gas leases under the stipulations mentioned above. The plan is to be able to mitigate the problems of the multiple mineral development.

Surface Owner Consultation

Section 714 of the Surface Mining Control and Reclamation Act (SMCRA) requires BLM to consult with certain "qualified" owners of "split-estate" lands (private surface ownership over federally owned coal) when surface mining of federal coal is being considered. This requirement is also expressed in 43 CFR 3461 which requires consultation during the planning process.

In this consultation process, qualified surface owners are asked to express their preference for or against surface mining of federal coal under their private surface estate. Expressions of a preference against surface mining, either by an individual or by a significant number of individuals, can result in federal coal land being unavailable for coal development. Such areas can still be considered for possible leasing because the owner's former consent or refusal to consent does not occur until later in the coal activity planning process.

This process was completed in two phases. Phase one included the Gillette coal development potential area. Phase two included the Sheridan coal development potential area. The letters for the Gillette area were sent out during December 1996. The Sheridan area letters were sent during August and November 1997.

Letters were sent by certified mail to 569 surface owners of record in Campbell, Converse, and Sheridan counties. The owners were asked to express their preference for or against mining. There were a number of owners who did not respond. The results are shown in table 3.

No attempt was made to distinguish qualified surface owners. This is because some of the landowners owned the land less than three years but will have owned the land three years or more when leasing takes place. Also, large landowners may have their primary

<p style="text-align: center;">TABLE 3 SUMMARY OF SURFACE OWNER CONSULTATION</p>						
Area	Letters Sent	Letters Delivered	Responses Received	Number Responding "No"	Survey Acreage	Acreage Against Mining
Gillette	421	402	224	197	602,400	124,360
Sheridan	148	139	93	46	73,200*	20,700 to 30,720*
<p>*These figures are approximate and are based on an undifferentiated full section basis. That is, if a section contained federal coal all of the section was included in the acreage. Also, if a section received an "against" answer, the entire section was included in the figure. Errors can arise if the owner only owned a small portion of the section it would weight the number higher than it should. Since the same process was used for both total acres and against acres the ratio should remain about the same. The reason for the range of values in the "against mining" is because some sections had "favor mining" and "against mining" answers.</p>						

residence on the lands included in the survey but will not have their primary residence on the lands being leased in the future (for example, a 160-acre tract several miles from their primary residence).

Figure 6 illustrates the results of the surface owner consultation survey in map form. There is not much opposition to mining in the areas that are actively being mined in the Gillette area. The objections are quite a ways from the active areas or in areas having moderate to low development potential. In the Sheridan area there is a greater percentage of owners who do not favor mining. As can be seen on the figure, there is a cluster in the west and southeast of the Sheridan area who do not favor mining.

No area should be dropped from further consideration for leasing as a result of responses received from surface owners. However, before future tracts are delineated, surface owners will be contacted as to their preference for or against surface coal mining.

